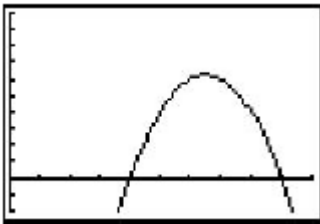


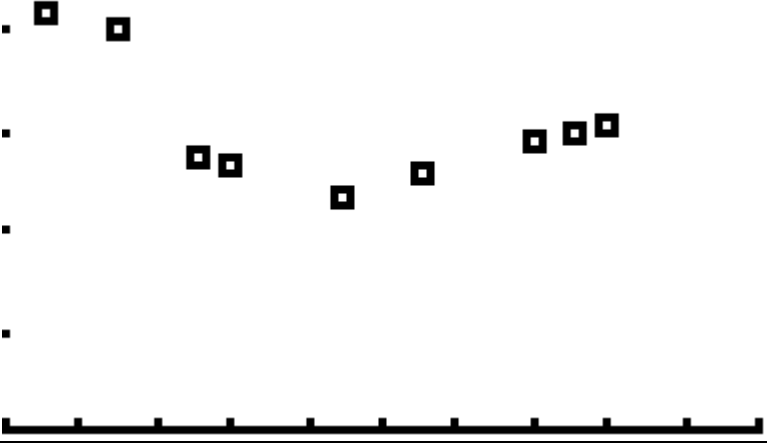
## Nelson Functions and Applications 11 Errata

Chapter 1: Introduction to the Quadratic Functions		
Location	Question	Correct Answer
1.1	1a i	$R = \{1, 2\}$
1.1	1b i	$R = \{1, 2, 3, 5\}$
1.1	1c i	$D = \{0, 1, 2, 3\}$ $R = \{0, 1, 2, 3\}$
1.1	3a i	The vertical and horizontal scale on the graph in the question should be: 0, 2, 4, ... . Answer: $D = \{2, 3.5, 5, 6.5, 8, 9.5, 11, 12.5\}$ $R = \{2.5, 4, 5.5, 7\}$
1.1	3b i	$D = \{1, 3, 4, 5\}$ $R = \{3, 4, 5, 6, 7, 8\}$
1.1	3c i	The vertical and horizontal scale on the graph in the question should be: -2, 0, 2, 4, ... . Answer: $D = \{x \in \mathbf{R} \mid -2 \leq x \leq 3.5\}$ $R = \{y \in \mathbf{R} \mid -3.5 \leq y \leq 4.5\}$
1.2	1a	Third row of difference table should be: -0.16, -0.48, -0.80, -1.12, -1.44, -1.76, -2.08, -2.16  Fourth row of difference table should be: 0.32, 0.32, 0.32, 0.32, 0.32, 0.32, 0.08 The distance is a linear function of time because the second differences equal 0.32.
1.2	1b	$D = \{t \in \mathbf{R} \mid 0 \leq t \leq 0.8\}$ , $R = \{d(t) \in \mathbf{R} \mid 0 \leq d(t) \leq 10\}$
1.2	4	The question should offer the choice: neither.
1.2	5	The question should offer the choice: neither.
1.2	7a	Add to answer: Answers may vary. E.g.,
1.2	7b	Add to answer: Answers may vary. E.g.,
1.2	8c	In the table, the first First difference should be: 24.5 In the table, the first Second difference should be: -9.8
1.3	12b	Change $x$ -coordinate to: 0
1.3	12c	Answers may vary. E.g., about 1 or about 5
1.3	17e	Answers may vary. E.g., about 6.1 s
Mid-Chapter Review	4b	Answers may vary. E.g., about 1.25 s
Mid-Chapter Review	4c	Answers may vary. E.g., about 120 cm based on the graph
Mid-Chapter Review	5	Add labels on graph: Speed(km/h) for $x$ -axis Length of Skid(m) for $y$ -axis
1.5	7d e	Add to answers: Answers may vary. E.g.,
1.5	7f	Answers may vary. E.g., $y = 0.5(x - 1)^2$
1.5	8b	Change "is the same as the graph" to: is narrower than the graph $y = x^2$

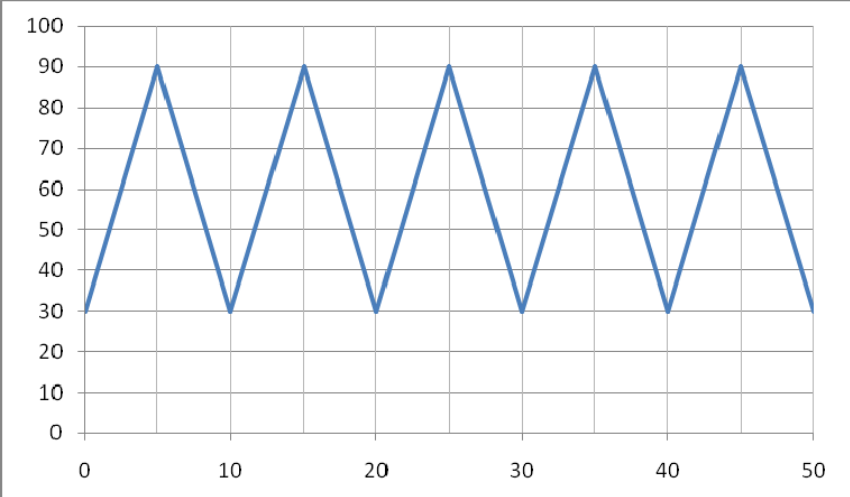
1.5	11a	Change "for Neptune is slightly wider" to: for Neptune is the narrowest
1.5	14a	$y = -2(x + 4)^2$ , $y = -2(x + 2)^2$ , $y = -2x^2$ , $y = -2(x - 2)^2$ , $y = -2(x - 4)^2$
1.5	14b	Answers may vary. E.g., $y = 0.5(x + 6)^2$ , $y = 0.5(x + 3)^2$ , $y = 0.5x^2$ , $y = 0.5(x - 3)^2$ , $y = 0.5(x - 6)^2$
1.7	1b	$D = \{x \in \mathbb{R}\}$ , $R = \{y = 4\}$ ; $D = \{x = 6\}$ , $R = \{y \in \mathbb{R}\}$
1.7	5	$D = \{x \in \mathbb{R}\}$ , $R = \{y \in \mathbb{R} \mid y \leq 36\}$
1.7	9a	Add: , $t$ in minutes
1.7	9c	$D = \{x \in \mathbb{R} \mid 0 \leq x \leq 300\}$ , $R = \{d(t) \in \mathbb{R} \mid -3000 \leq d(t) \leq 0\}$
Chapter Review	2	Add to answer: because the second differences all equal $-6$
Chapter Review	8b iii	Change range to: $R = \{y \in \mathbb{R} \mid y \leq -7\}$
Chapter Review	8b	Add to answer: Domains do not change. Ranges vary according to the values of $a$ and $k$ .
Chapter Review	14	Answers may vary. E.g., 13.32 s or 13.13, depending on rounding
Chapter Self-Test	2	Change $y = \sqrt{x}$ to: $y = \pm \sqrt{x}$
Chapter Self-Test	3	The question should offer the choice: neither.
<b>Chapter 2: The Algebra of Quadratic Expressions</b>		
<b>Location</b>	<b>Question</b>	<b>Correct Answer</b>
2.1	15a	$(n + 1)^2 - n^2 = n^2 + 2n + 1 - n^2 = 2n + 1$
2.1	15d	Add to answer: Answers may vary, E.g.,
2.2	4a	$-6x^2 + 6x$
2.4	10f	$(2x + 3)(3x - 1)$
<b>Chapter 3: Working with Quadratic Functions: Standard and Factored Forms</b>		
<b>Location</b>	<b>Question</b>	<b>Correct Answer</b>
Getting Started	8a	$x$ -intercepts: 3, $-2$ ; $y$ -intercept: about $-6$ ; minimum $-6$ ; the parabola opens upward and $a > 0$
Getting Started	10	Add to answer: Answers may vary, E.g.,
3.2	9b	Change the axis of symmetry is $x = -1$ to: the equation of the axis of symmetry is $x = 1$
3.2	13a	$x = 5$ ; $(5, 6)$ ; $f(x) = -\frac{2}{3}(x - 2)(x - 8)$ ; $f(x) = -\frac{2}{3}x^2 + \frac{20}{3}x - \frac{32}{3}$
3.2	13d	$x = -4$ ; $(-4, -5)$ ; $f(x) = \frac{5}{16}x(x + 8)$ ; $f(x) = \frac{5}{16}x^2 + \frac{1}{2}x$
3.2	19a	$h(d) = 0.0502(d - 21.9)(d + 1.2)$
3.2	19b	$r = 21.9$ signifies the distance the shot put hits the ground away from the shooter, 21.9 m. $s = 1.2$ m has no significance because it is negative meaning the shot put

		would land behind the shooter
3.3	2b	Add the word "about": zeros: about $-1.4$ , about $6.4$
3.3	3c	Add the word "about": $x^2 + 3x - 5 = 0$ ; zeros: about $-4.2$ , about $1.2$
3.3	6c	partway through 1970 and 1983
3.3	7	Add the word "about": about $26.9$ s
3.3	8	Add the word "about": about $3.53$ s
3.4	9a	0 m or 24 m
3.4	14b	about 631 or 3169 pairs of shoes
3.5	1a	
3.5	1b	Answers may vary, E.g., I prefer a graphing calculator because it gives a visual representation.
3.5	3	Change $0.5$ km/h to: $25$ km/h
3.5	11	$16 = -2x^2 + 32x - 110$ $0 = -2x^2 + 32x - 126$ $0 = -2(x^2 - 16x + 63)$ $0 = -2(x - 7)(x - 9)$ $x = 7$ and $x = 9$
3.6	5	The equation is correct. Add the word "about": about $3.6$ m
3.6	6	The equation is correct. Change $t = 2.45$ s to: about $2.45$ s
3.6	7	The equation is correct. Change $t = 1.7$ s, $t = 0.2$ s to: about $0.2$ s and $1.7$ s
3.6	8	The equation is correct. Change $t = 3.7$ s to: about $3.7$ s
3.6	9b	Add the word "about": about $-4.25$ m or about $4.25$ m below the height of the hilltop
Chapter Review	4a	Add the word "about": about $3.15$ m
Chapter Review	4b	Add the word "about": about $2.38$ s
Chapter Self-Test	8a	Add the word "about": about $6.4$ s
Chapter Self-Test	9c	about $36\,833$ kg/ha
<b>Chapters 1–3 Cumulative Review</b>		
<b>Location</b>	<b>Question</b>	<b>Correct Answer</b>
Cumulative Review Chapters 1–3	19a	Domain $\{x \in \mathbf{R}\}$ , Range $\{y \in \mathbf{R}   y \geq 5\}$
Cumulative Review Chapters 1–3	20d	Add the following in addition to the graph: Yes. The height can be determined given the time in seconds, where $0 \leq t \leq 8$ .

Cumulative Review Chapters 1–3	20g ii	Add the word "about": about 7.35 s
<b>Chapter 4: Working with Quadratic Models: Standard and Vertex Forms</b>		
<b>Location</b>	<b>Question</b>	<b>Correct Answer</b>
Getting Started	9d	Answer should read: compressed vertically by a factor of $\frac{1}{2}$ ...
4.1	2abcd	“ $x \geq \mathbf{R}$ ” should be changed to: $x \in \mathbf{R}$ “ $y \geq \mathbf{R}$ ” should be changed to: $y \in \mathbf{R}$
4.1	2b	“ $y < -1$ ” should be changed to: $y \leq -1$
4.1	2c	“ $y < -6$ ” should be changed to: $y \leq 6$
4.1	4	Range column should include $y \in \mathbf{R}$ as follows: a) $\{y \in \mathbf{R} \mid y \geq 1\}$ b) $\{y \in \mathbf{R} \mid y \leq -5\}$ c) $\{y \in \mathbf{R} \mid y \geq -3\}$ d) $\{y \in \mathbf{R} \mid y \leq 2\}$ e) $\{y \in \mathbf{R} \mid y \leq 1\}$ f) $\{y \in \mathbf{R} \mid y \geq 3\}$
4.1	5d	$x \doteq -6.87, 0.87$
4.1	5e	$x \doteq 0.19, 7.81$
4.1	8a	$y = -\frac{1}{3}(x+4)^2 + 8, y = -\frac{1}{3}x^2 - \frac{8}{3}x + \frac{8}{3}$
4.1	15	Answers may vary. E.g., $y = -0.14(x - 1997)^2 + 20$
4.2	15	In the second last line of the example, “(9 + 4)” should not have brackets and should be written as: 9 + 4
4.3	2d	Replace = with $\doteq$ .
4.3	3df	Replace = with $\doteq$ .
4.3	4df	Replace = with $\doteq$ .
4.3	5bdf	Replace = with $\doteq$ .
4.3	6a	about 10.86 s
4.3	6b	about 9.07 s
4.3	8	Add the word "about": about 9.02 s
4.3	9	about 91.76 km/h
4.3	11ab	Replace = with $\doteq$ .
4.3	12	Question in the lesson should be changed from $y - 3x^2 - 4x - 9$ to: $y = 3x^2 - 4x - 9$ not
4.3	14a	$x \doteq 0, 0.37, -5.37$
4.3	14b	$x \doteq -3, 3, 2.45, -2.45$
Mid-Chapter Review	7	Question should specify a rectangular area.
Mid-Chapter Review	9	about 4.05 s
Mid-Chapter Review	11b	about 8.05 s

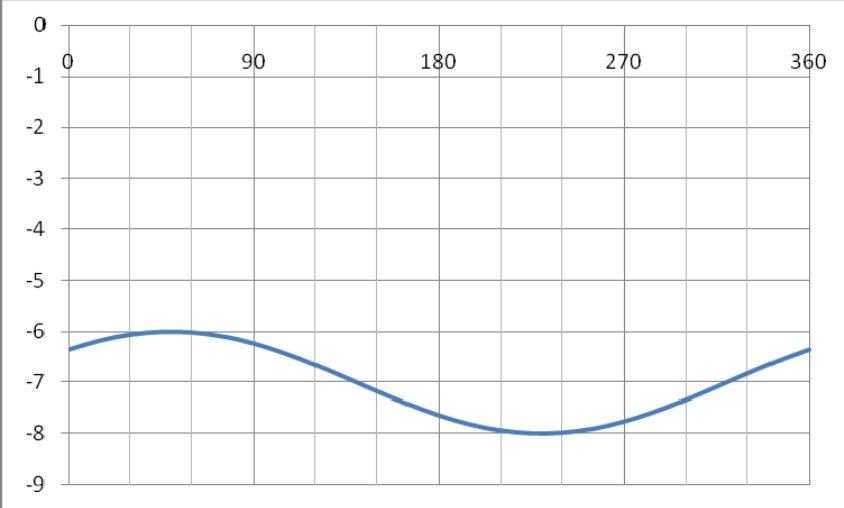
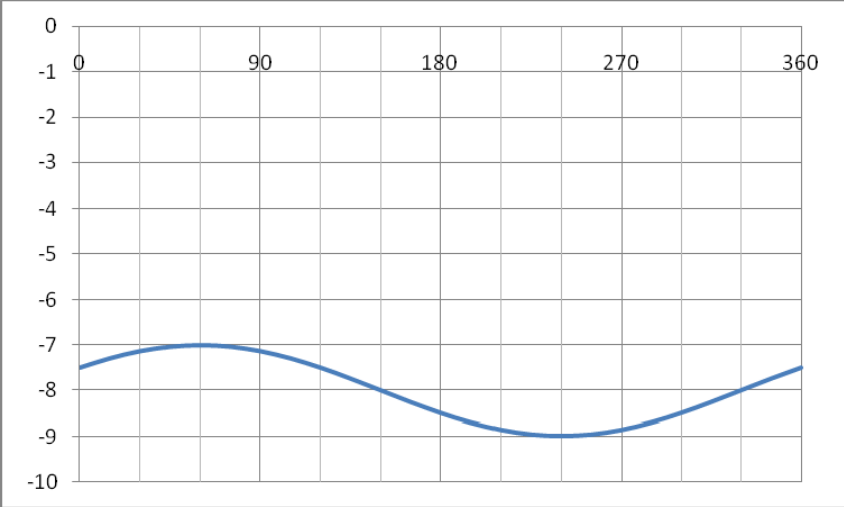
4.4	10a	$-\sqrt{50} < k < \sqrt{50}$
4.4	10b	$k = \pm\sqrt{50}$
4.4	10c	$k < -\sqrt{50}, k > \sqrt{50}$
4.4	12	Yes. When $P(x) = 50$ representing \$50 000, the discriminant is greater than zero so the equation has two solutions.
4.4	13	Answers may vary. E.g., Compare the $y$ -value of the vertex and the opening direction, or write in standard form and determine the sign of the discriminant. Since $a$ is positive the graph opens upward. The vertex is $(-1, -6)$ so it is below the $x$ -axis and the graph will cross the $x$ -axis twice. The discriminant is 48, which is positive, so the function has two zeros.
4.5	4	Add the word "about": about 1.73 s
4.5	7	between 1 and 7
4.5	12b	\$5.00 or \$8.00
4.5	13c	No. The height is negative for this value of $t$ .
4.5	13d	Replace = with $\doteq$ .
4.6	2a	<p>Scatter plot should be a graphing calculator screen:</p> 
4.6	2be	Add: Answers may vary. E.g.,
4.6	5b	Add: Answers may vary. E.g., $y = 0.007\ 12x^2$
4.6	5c	Add: Answers may vary. E.g., 102.5 m
4.6	5c	Question should say “nearest tenth of a metre” not kilometre.
4.6	6abc	Add: Answers may vary. E.g.,
4.6	7ac	Add: Answers may vary. E.g.,
4.6	7c	<p>domain: <math>\{x \in \mathbf{R} \mid 1982 \leq x \leq 1992\}</math>  range: <math>\{y \in \mathbf{R} \mid 718 \leq y \leq 1135\}</math></p>
4.6	8	<p>Add: Answers may vary. E.g.,  <math>y = -5(x - 2)^2 + 20.5</math>; domain: <math>\{x \in \mathbf{R} \mid 0 \leq x \leq 4.02\}</math>;  range: <math>\{y \in \mathbf{R} \mid 0 \leq y \leq 20.5\}</math>; about 4.03 s</p>
4.6	9abc	Add: Answers may vary. E.g.,

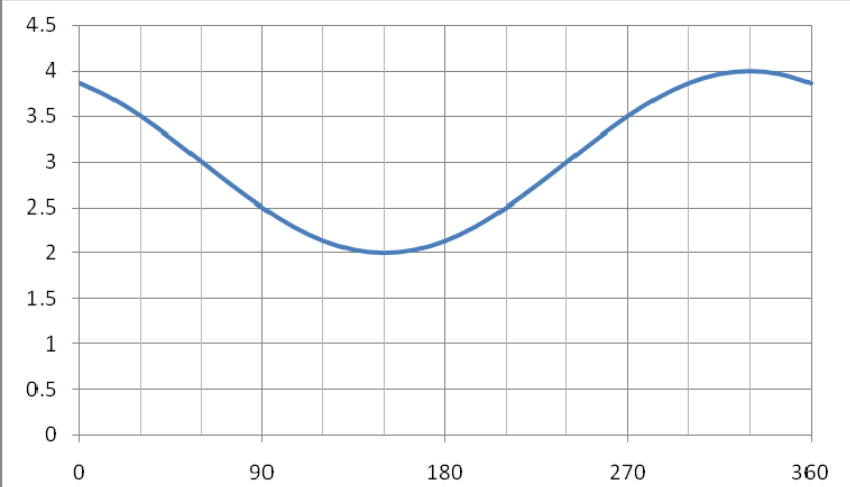
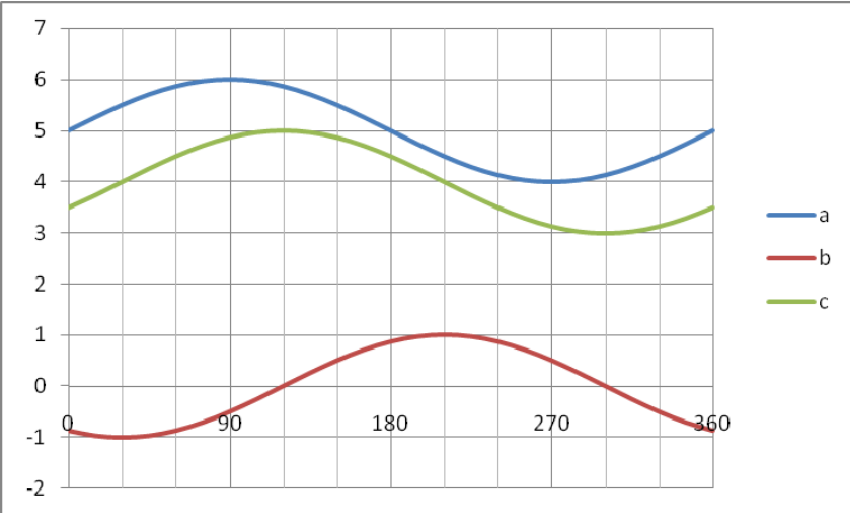
4.6	9b	Answers may vary. E.g., domain: $\{x \in \mathbf{R} \mid 0 \leq x \leq 2.77\}$ range: $\{y \in \mathbf{R} \mid 0 \leq y \leq 1.34\}$
4.6	9c	about 56 kg/ha or 206 kg/ha
4.6	10ab	Add: Answers may vary. E.g.,
4.6	10b	128 miles/h; It is possible.
4.6	13	Add the word about: about 12.73 m
Chapter Review	5d	Replace = with $\doteq$ .
Chapter Review	6b	about 1.51 s
Chapter Review	8	Switch answers for a and c.
Chapter Review	10c	36 m or 252 m
Chapter Review	11abc	Add: Answers may vary. E.g.,
Chapter Review	11c	about 2.82 s or 0.18 s
Chapter Review	12a	Graph should show a scatter plot with a smooth curve of good fit, not a broken-line through each point.
Chapter Review	12bd	Add: Answers may vary. E.g.,
Chapter Self-Test	3a	Graph should be changed to show a parabola through (6, 11) and (10, 11).
Chapter Self-Test	5a	Replace = with: $\doteq$
Chapter Self-Test	9ac	Add: Answers may vary. E.g.,
Chapter Self-Test	9d	Answers may vary. E.g., \$4106.13
<b>Chapter 5: Trigonometry and Acute Triangles</b>		
<b>Location</b>	<b>Question</b>	<b>Correct Answer</b>
Getting Started	8b	$\theta \doteq 67^\circ$ , $\varphi \doteq 23^\circ$
5.1	6a	(Eiffel Tower) 320 m
5.2	1b	$42.9 \text{ cm}^2$
5.2	7b	292.2 m
5.2	7c	Answers may vary depending on rounding. E.g., 233.7 m or 233.9 m
5.3	3a	13 cm
5.3	3b	The triangle in the question needs the dimension of $EF$ marked as 10 cm. Answer: $68^\circ$
5.3	5b	100 m
5.3	8b	The triangle in the question needs the dimension of $EF$ marked as 10 cm. Answer: $\angle N \doteq 70^\circ$ , $\angle M \doteq 82^\circ$ , $m \doteq 11 \text{ cm}$
5.3	9a	$\angle A \doteq 42^\circ$ , $\angle B \doteq 70^\circ$ , $b \doteq 14.6 \text{ cm}$
5.3	15	15.2 m
Mid-Chapter Review	10b	12m
5.4	4b	19.0 cm
5.5	7	$19^\circ$
5.5	11	$48^\circ$

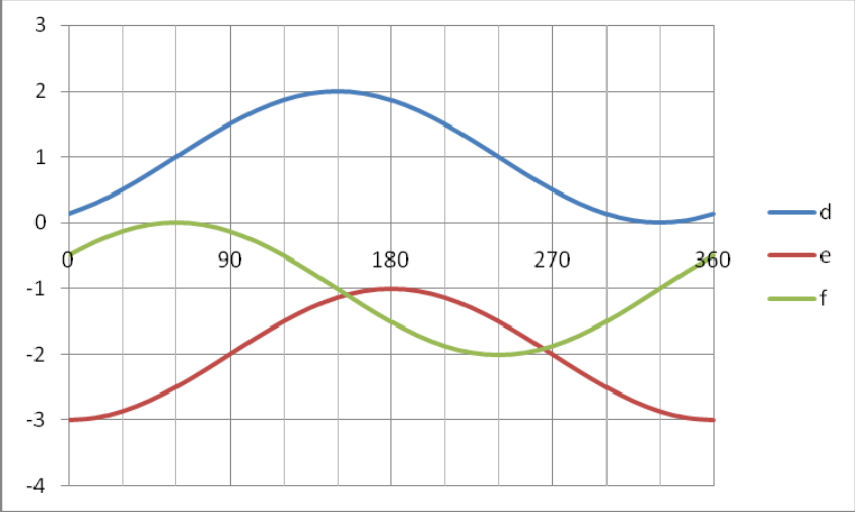
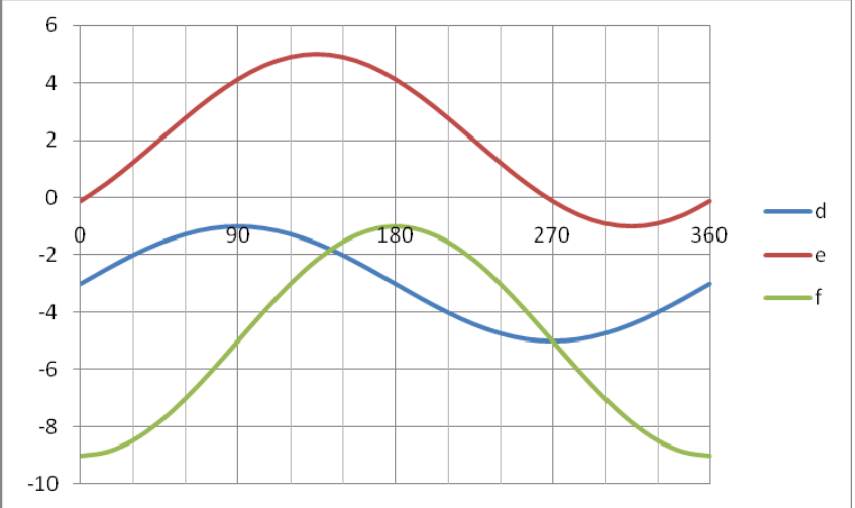
5.5	14	The upper right square of the table should read: $x^2 = 1.7^2 + 3.8^2 - 2(1.7)(3.8)\cos 115^\circ$ $x \doteq 4.8 \text{ km}$
5.5	15	13.8 cm <sup>2</sup>
Chapter Review	2	15°
Chapter Self-Test	6	12 m
<b>Chapter 6: Sinusoidal Functions</b>		
<b>Location</b>	<b>Question</b>	<b>Correct Answer</b>
Getting Started	1b	(v)
Getting Started	1d	(iii)
Getting Started	2b	Delete last part of answer; leave only: about 30 s
Getting Started	2c	Answers may vary. E.g., started off quickly for 7.5 s, slowed down for 12.5 s, then sped up again for the rest of the race.
Getting Started	4a	i) Add units m/s for: 0.5 m/s ii) Change (0. 1.5) to: 1.5 m iii) Add units m/s for: 0 m/s iv) 8 s; The truck reached the motion detector after 8 s
6.1	1a	Graph should be replaced with the one below, with y-label: "Distance (cm)" and x-label: "Time (s)" 
6.1	2	Answers may vary. E.g., In the explanation, change: "for" to: over Change graph to show 3 full cycles; that is, graph should go to 21.5 with the grid stopping at 22.
6.2	4d	Add the d) to part a) so that the graph shows the answer for both parts a) and d). Extend graph to 19 s
6.2	5a	The values for the volume of water are repeated at equal intervals, 15 min, of the independent variable, time
6.2	5b	15 min; Answers may vary. E.g., A complete cycle is everything

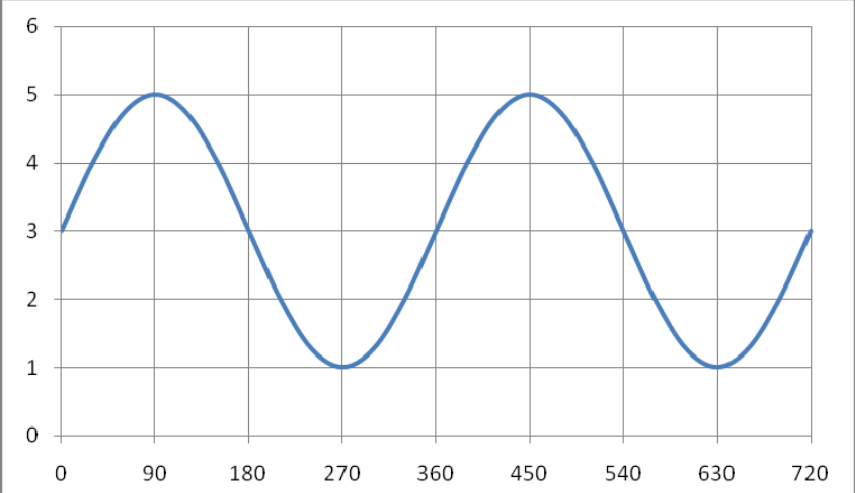
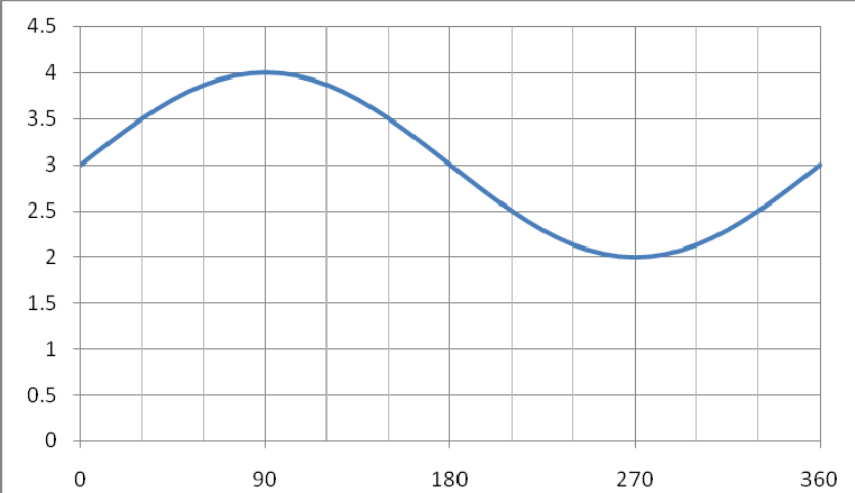
		that occurs in one period. A complete cycle means the water in the dishwasher increases from 0 L to 15 L in almost 1 min, stays the same for a little more than 5 min, decreases to 0 L in about 30 s, increases to 15 L in about 30 s, stays the same for 3 min, decreases to 0 L in about 20 s, then stays at 0 L for about 1 min 40 s
6.2	6c	6 m; 6 m is the difference between maximum and minimum heights
6.2	10a	Answers may vary. E.g., The washing machine has no water for 2 min, increases the water to 50 L in 3 min, keeps the same amount of water for about 8 min, empties the water in about 1 min, stays empty for 1 min, increases the water to 10 L in 1 min, empties the water in 1 min, waits 1 min, increases the water to 50 L in 1 min, keeps the same amount of water for 3 min, empties in 1 min, then waits 3 min.
6.2	14	Add to the answer: Graphs may vary. E.g.,
6.2	15c	The graph should only show 2 cycles. The part after 280 s should be deleted.
6.3	8d	$a = 4.5$ h; difference between maximum or minimum hours of daylight and the mean number of hours of daylight
6.3	9c	12 m
6.3	12a	Change E in the table to: undefined
6.3	12 c	Change answer to: No. It is periodic but is not a transformation of $\sin x$ , so it is not sinusoidal.
6.3	12d	Change answer so that the words vertical asymptotes are not included: period: $180^\circ$ ; no axis or amplitude because there are no minimum or maximum values
6.4	1	Ferris wheel C: maximum height of 15 m, greater than A and B; radius of 7 m, greater than A and B; speed of about 0.55 m/s, less than A but more than B.
6.4	3abcd	Graphs should be horizontally shifted so that the lowest point is at 0 s.
6.4	6ab	The equal sign = should be replaced by the sign approximately equal for speed
6.4	7h	straight line at $y = 30$ cm
6.4	15c	units of displacement on the graph should be changed from cm to: m
6.4	15d	3 m
Mid-Chapter Review	2	Cycle—a periodically repeating sequence of events. E.g., dishwasher cycle, turn of a Ferris wheel. Period—time for one complete cycle. Also the time between peaks in a wave-like function.
Mid-Chapter Review	6	$90^\circ$ label on x-axis should be moved one tick to the left; the graph should end at (5, 90).
Mid-Chapter	7b	period: $180^\circ$ ; amplitude 3; axis $y = 9$

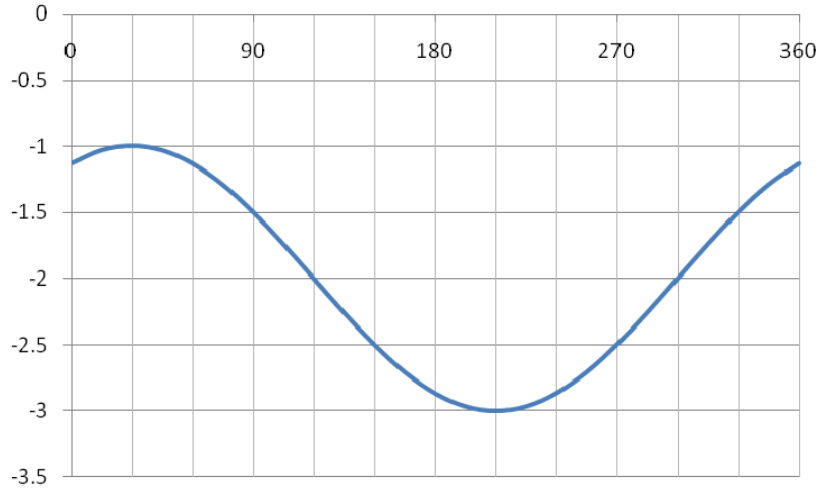
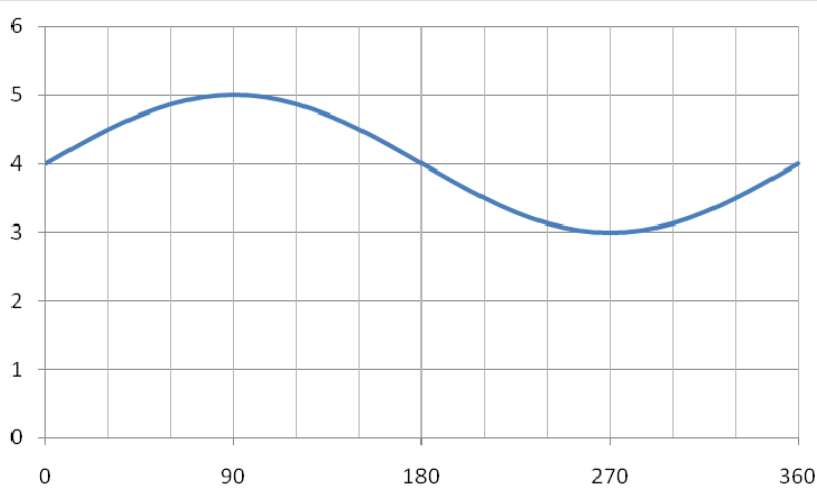
Review		
Mid-Chapter Review	9a	<p>Replace graph with the following for a 15 m radius wheel and for a 12 m radius wheel:</p>
6.5	4c	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p>

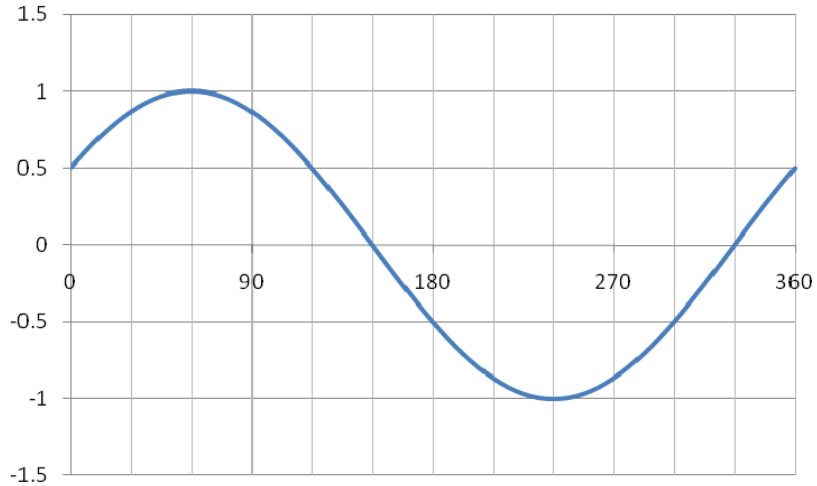
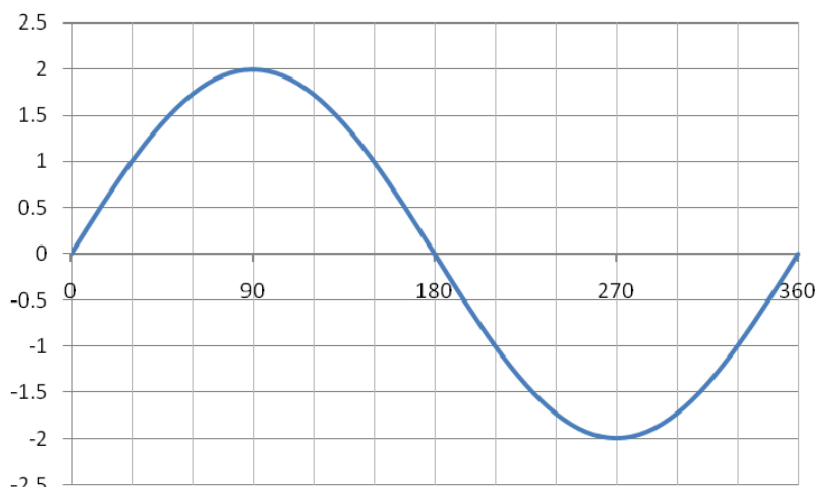
6.5	4d	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
6.5	4e	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 

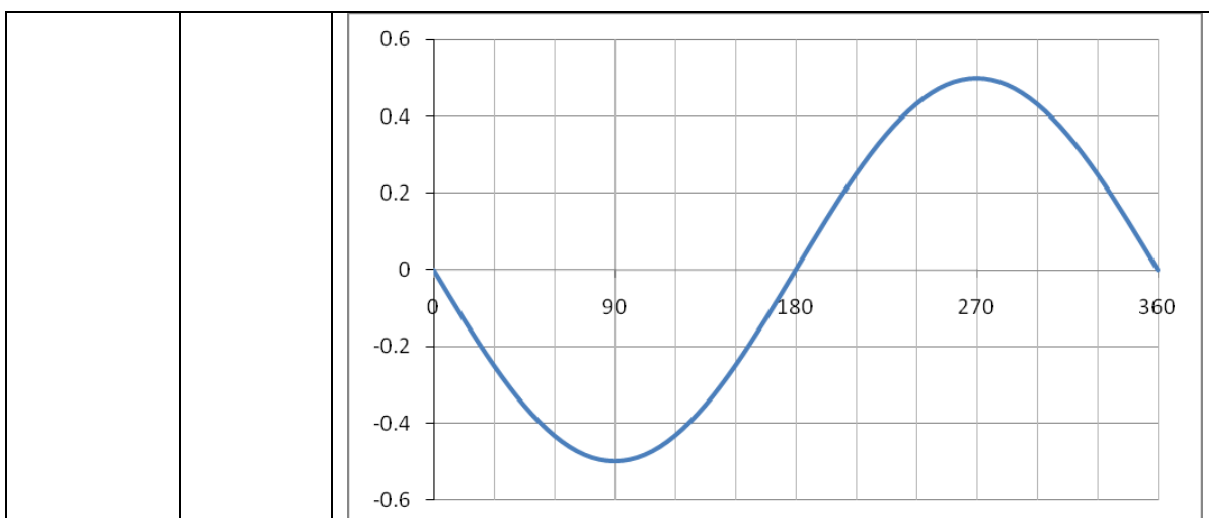
6.5	4f	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
6.5	6b	$f(x) = \sin(x - 60^\circ) - 7$
6.5	9abc	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 

6.5	9def	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
6.5	10b	Change to: vertical translation of 1
6.5	10c	1 m; radius of the wheel
6.5	10d	horizontal shift of $45^\circ$
6.5	13	<p>Answers may vary. E.g.,</p> <p>The third function should read <math>f(x) = \sin(x + 25^\circ) + 9</math></p>
6.6	2	The word "compressed" in the question should be replaced with: stretched.
6.6	13abc	Function c should be flipped about the $x$ -axis.
6.6	13def	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
6.6	16	Ferris wheel should be labelled as able to go in either direction.
6.6	17b	horizontal compression of 0.5

6.6	20d	horizontal compression
Chapter Review	4	Labels of $90^\circ$ , $180^\circ$ , and $270^\circ$ along $x$ -axis should be replaced with $360^\circ$ , $720^\circ$ , and $1080^\circ$ . Graph should end at $1080^\circ$ .
Chapter Review	5	<p>Graph should be replaced with the graph below but with the degree symbol for each value on the horizontal axis, <math>x</math> on the horizontal and <math>f(x)</math> on the vertical axis.</p> 
Chapter Review	8a	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
Chapter Review	8b	Graph should be replaced with the graph below but with the degree symbol for $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ , $x$ on the horizontal axis, and $f(x)$ on the vertical axis.

		
Chapter Review	11c	Graph of function c should be vertically translated down 1 unit.
Chapter Self-Test	1a	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
Chapter Self-Test	1b	Graph should be replaced with the graph below but with the degree symbol for $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ , $x$ on the horizontal axis, and $f(x)$ on the vertical axis.

		
Chapter Self-Test	1c	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p> 
Chapter Self-Test	1d	<p>Graph should be replaced with the graph below but with the degree symbol for <math>90^\circ</math>, <math>180^\circ</math>, <math>270^\circ</math>, and <math>360^\circ</math>, <math>x</math> on the horizontal axis, and <math>f(x)</math> on the vertical axis.</p>

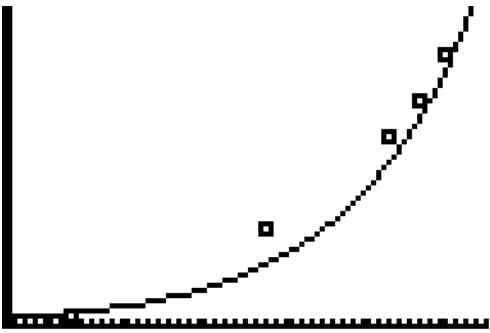


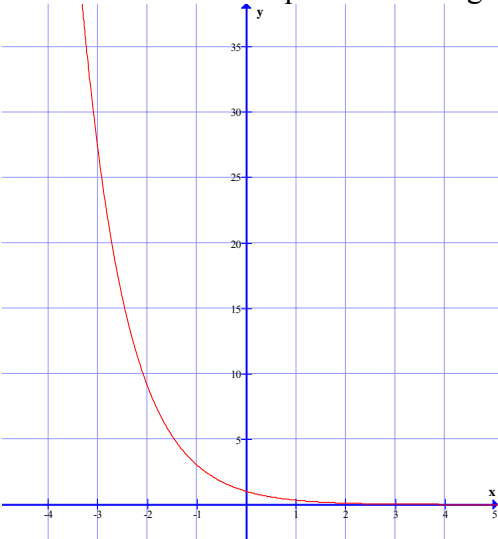
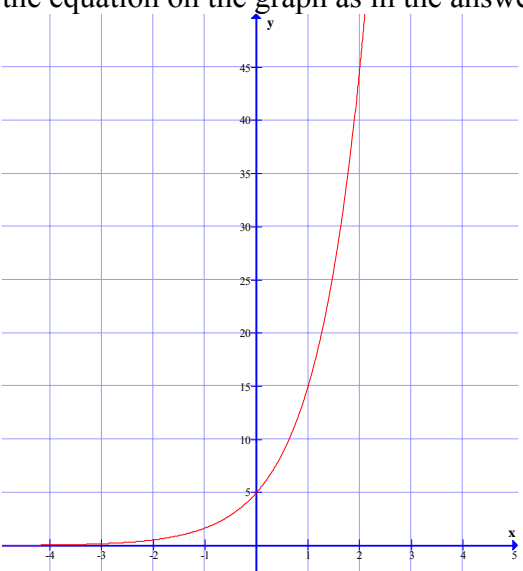
### Chapters 4–6 Cumulative Review

Location	Question	Correct Answer
Cumulative Review Chapters 4–6	7a	The answer is a), as in the back of the book, but the choice for a) in the question should be 9.3 km instead of 9.4 km.
Cumulative Review Chapters 4–6	30a	$f(x) = -0.0732x^2 + 45.75$ , where $x$ is the horizontal distance from the centre of the field measured in m and $f(x)$ represents the height in centimetres.

### Chapter 7: Exponential Functions

Location	Question	Correct Answer
Getting Started	2b	7.1
7.2	10f	$\left(\frac{1}{5}\right)^8$
7.2	12a	Clare multiplied the bases and added the exponents of unlike bases.
7.2	14a	$a$ and $b$ must either be both even or both odd
7.2	15a	No, they do not have the same value. $[(-5)^2]^3 = 15\,625$ , $(-5^2)^3 = -15\,625$
7.3	5e	-3
7.3	6b	$\left(\frac{1}{5}\right)^{11}$
7.3	7e	-1
7.3	8a	$\frac{1}{13}$
7.3	15	The answer is correct, but, in the question, $(y-5)(x^5) - 2(y^2)(x-3) - 4$ should be: $(y^{-5})(x^5)^{-2}(y^2)(x^{-3})^{-4}$ .
7.4	2a	$1024^{\frac{1}{10}} = 2$
7.4	2d	$(-216)^{\frac{5}{3}} = -7776$
7.4	4e	The answer is correct, but in the question, $-81^{-0.25}$ should be: $-81^{-0.25}$

7.4	6e	$\frac{1}{10^{\frac{5}{4}}}$
7.4	7e	$\frac{1}{9^{\frac{1}{2}}}$
7.4	7f	$\frac{1}{2^4}$
7.4	8	$10^{1.5} \doteq 31.6$ ; $10^{-0.5} \doteq \frac{1}{3.16}$ ; $10^{1.5} = 10^{1+0.5} = (10^1)(10^{0.5}) \doteq (10)(3.16) \doteq 31.6$ ; $10^{-0.5} = \frac{1}{10^{0.5}} \doteq \frac{1}{3.16}$
7.4	11e	$\frac{1}{\sqrt{5}}$
7.4	14e	$s^{0.8}$
7.4	16	$64^{-\frac{5}{3}} = \left(\frac{1}{\sqrt[3]{64}}\right)^5 = \left(\frac{1}{4}\right)^5 = \frac{1}{1024}$
7.4	17a	$M = 1.05^3 \doteq 1.16$
7.4	18b	$64^{\frac{2}{3}} = 16$
7.5	2e	range: $\{y > -3\}$
7.6	12a	<p>The second screen should be as below.</p> 
7.6	13a	about 4.80 m
7.7	5c	Answers may vary, e.g., No. The model will not be valid after several weeks. The air escapes the ball because it is under pressure. Once the air pressure inside the ball and outside the ball is equal, the air will stop leaking out.
7.7	6a	about 32 g
7.7	6b	about 7 min
7.7	7c	34 gels
7.7	8b	15%
7.7	9d	86 °C
7.7	13b	$5(0.80)^4 = 2.048, 2.048$ m
7.7	13c	about 1.049 m
Chapter Review	14d	No. He will earn \$170.05, more than twice as much.

Chapter 8: Solving Financial Problems Involving Exponential Functions		
Location	Question	Correct Answer
Getting Started	4a	$12\,288, \frac{3}{4096}$
Getting Started	4b	$320, \frac{5}{64}$
Getting Started	11b	<p>Replace graph with this graph so that it goes through points <math>(-1, 3)</math>, <math>(-2, 9)</math>, and <math>(-3, 27)</math>. Keep the scale on the graph in the answers and the equation on the graph as in the answers.</p> 
Getting Started	11c	<p>Replace with this graph so that it goes through <math>(1, 15)</math>. Keep the equation on the graph as in the answers.</p> 
8.1	15	<p>Answers may vary. E.g., If interest rate increases the day balance passes \$5000: \$5614.53, with amount varying slightly depending on rounding. If interest rate increases the end of the year balance passes \$5000: \$5601.02, with amount varying slightly depending on rounding.</p>

8.2	2a	Principal: 400.00															
8.2	2b	Principal: 750.00															
8.2	2c	Principal: 350.00, Rate: 0.002 04, Amount: 425.63, Interest Earned: 75.63															
8.2	2d	Principal: 150.00															
8.2	2e	Principal: 1000.00, Rate: 0.000 13, Amount: 1209.23, Interest Earned: 209.23															
8.2	4e	Amount: 2043.07, Interest Earned: 43.07															
8.2	7	Change “Years ago” to: Months ago															
8.2	12a	Bank: $A = \$5255.81$															
8.2	14a	In the row for “monthly” under the column for “Formula”: The 12 in the answer should be an exponent															
8.2	14b	The amounts increase as the compounding frequency increases. The greatest increase in amount occurs when the compounding frequency changes from annually to semi-annually. From then on, the amount increases less.															
8.2	15	Delete “(%)” from the heading “ $i$ (%)”.															
8.2	16	Answers may vary. E.g., Larger terms...															
8.3	p. 641	Change title to: Lesson 8.3, pp. 476-478															
8.3	2	Delete “(%)” from the heading “ $i$ (%)”. Delete “ $I = A - P$ ” from the last column.															
8.3	4	Delete “(%)” from the heading “ $i$ (%)”. Delete “ $I = A - P$ ” from the last column.															
8.3	14	Delete “(%)” from the heading “ $i$ (%)”.															
8.3	14a	Compounding frequency: semi-annually (as indicated in the book); Annual interest rate: 11.5; Number of Years: 12															
8.3	14c	$i$ : 0.000 116															
8.4	1d	$I\%$ : 6.0															
Mid-Chapter Review	3	Friend’s Investment <table border="1"> <tr> <td>6</td><td>80.53</td><td>385.79</td></tr> <tr> <td>7</td><td>88.58</td><td>474.37</td></tr> <tr> <td>8</td><td>97.44</td><td>571.81</td></tr> <tr> <td>9</td><td>107.18</td><td>678.99</td></tr> <tr> <td>10</td><td>117.90</td><td>796.89</td></tr> </table>	6	80.53	385.79	7	88.58	474.37	8	97.44	571.81	9	107.18	678.99	10	117.90	796.89
6	80.53	385.79															
7	88.58	474.37															
8	97.44	571.81															
9	107.18	678.99															
10	117.90	796.89															
Mid-Chapter Review	11	8.76%															
Mid-Chapter Review	14	Delete extra space in: \$573.76															
8.5	1	Year   0   1   2   3															
8.5	4a	$R = 1000, i = 0.08, n = 3$															
8.5	4b	$R = 500, i = 0.018\ 75, n = 34$															
8.5	4c	$R = 200, i \div 0.002\ 708, n = 60$ ; Amount (\$): 13 010.95															
8.5	6	Answer should be just: \$1960.58															
8.5	8	No; entertainment system costs \$2823.27, investment is worth \$2743.74															

8.5	12a	Year 0                      20																																																																																												
8.5	13	Add to answer: Answers may vary. E.g.,																																																																																												
8.6	16b	The calculated amount is correct, but change exponent 48 to exponent: 24																																																																																												
8.7	6c	Answers may vary slightly depending on rounding. E.g., \$5854.85 or \$5854.80																																																																																												
8.7	9	\$26 673.95																																																																																												
8.7	10b	Answers may vary slightly depending on rounding. E.g., \$3464.88 or \$3465.00																																																																																												
8.7	10c	Answers may vary slightly depending on rounding. E.g., \$2286.34 or \$2286.44																																																																																												
8.7	13a	\$459.36																																																																																												
8.7	13b	about 35 more payments																																																																																												
8.7	13c	Answers may vary, depending on the method. E.g., 1060.26																																																																																												
Chapter Review	1d	Bold “3.7” in the table.																																																																																												
Chapter Review	7a	$750(1 + 0.02)^{39} = \$1623.56$																																																																																												
Chapter Review	16	Answers may vary depending on method used. E.g., <table><tr><td>Loan</td><td>\$10 000</td><td>Start Year</td><td>0</td></tr><tr><td>Annual Rate</td><td>0.08</td><td>End Year</td><td>5</td></tr><tr><td>Rate per Period</td><td>0.0067</td><td>Number of</td><td></td></tr><tr><td>Compounding</td><td></td><td>Payments</td><td>60</td></tr><tr><td>Periods per Year</td><td>12</td><td>Contribution</td><td>\$202.75</td></tr><tr><td>Payment</td><td></td><td>New Balance</td><td></td></tr><tr><td>Number</td><td>Payment (\$)</td><td>Interest (\$)</td><td>(\$)</td></tr><tr><td>0</td><td></td><td></td><td>10 000.00</td></tr><tr><td>1</td><td>202.76</td><td>66.67</td><td>9 863.91</td></tr><tr><td>2</td><td>202.76</td><td>65.76</td><td>9 726.91</td></tr><tr><td>3</td><td>202.76</td><td>64.85</td><td>9 589.00</td></tr><tr><td>4</td><td>202.76</td><td>63.93</td><td>9 450.17</td></tr><tr><td>5</td><td>202.76</td><td>63.00</td><td>9 310.42</td></tr><tr><td>6</td><td>202.76</td><td>62.07</td><td>9 169.73</td></tr><tr><td>7</td><td>202.76</td><td>61.13</td><td>9 028.10</td></tr><tr><td>8</td><td>202.76</td><td>60.19</td><td>8 885.53</td></tr><tr><td>9</td><td>202.76</td><td>59.24</td><td>8 742.01</td></tr><tr><td>10</td><td>202.76</td><td>58.28</td><td>8 597.54</td></tr><tr><td>11</td><td>202.76</td><td>57.32</td><td>8 452.10</td></tr><tr><td>12</td><td>202.76</td><td>56.35</td><td>8 305.69</td></tr><tr><td>13</td><td>202.76</td><td>55.37</td><td>8 158.30</td></tr><tr><td>14</td><td>202.76</td><td>54.39</td><td>8 009.93</td></tr><tr><td>15</td><td>202.76</td><td>53.40</td><td>7 860.57</td></tr></table>	Loan	\$10 000	Start Year	0	Annual Rate	0.08	End Year	5	Rate per Period	0.0067	Number of		Compounding		Payments	60	Periods per Year	12	Contribution	\$202.75	Payment		New Balance		Number	Payment (\$)	Interest (\$)	(\$)	0			10 000.00	1	202.76	66.67	9 863.91	2	202.76	65.76	9 726.91	3	202.76	64.85	9 589.00	4	202.76	63.93	9 450.17	5	202.76	63.00	9 310.42	6	202.76	62.07	9 169.73	7	202.76	61.13	9 028.10	8	202.76	60.19	8 885.53	9	202.76	59.24	8 742.01	10	202.76	58.28	8 597.54	11	202.76	57.32	8 452.10	12	202.76	56.35	8 305.69	13	202.76	55.37	8 158.30	14	202.76	54.39	8 009.93	15	202.76	53.40	7 860.57
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Appendix A: Review of Essential Skills and Knowledge		
Location	Question	Correct Answer
A-1	4b	20
A-4	2b	14.3 cm
A-4	2c	7.5 m
A-5	3d	4846.59 cm <sup>3</sup>
A-7	2a	The graph needs to go through (3, 8) and (0, -1) with a slope of 3.
A-12	2e i	7, 22, 45, 76
A-14	1a	Add the word about: about 53 m, about 54 m
A-14	1b	about 70 m, about 71 m
A-15	5d	24.3°
A-15	6a	Add the word about: about 12.4 cm
A-15	6b	Add the word about: about 5.7 cm
A-15	6c	Add the word about: about 27°
A-15	6d	Add the word about: about 46°
A-15	7	Add the word about: about 8.7 m
A-15	8	Add the word about: about 84.2 m
A-15	9	Add the word about: about 195 m